

## REMARKS

In the Office Action, Claims 1-16 are pending and stand rejected. In response, Claim 1 is amended, Claims 1-7, 9, 10, and 12 are cancelled and Claims 17-19 are added. Applicants respectfully request reconsideration of pending claims in view of the above amendments and the following remarks.

### **I. Claim Rejections Under 35 U.S.C. §102**

Claims 1, 2, 4-8, and 13-16 are rejected under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 6,950,545 to Nomoto et al. ("Nomoto"). Applicant respectfully traverses this rejection.

Regarding Claim 8, Claim 8 recites:

1. An impurity measuring device comprising:  
a table on which a metal sample having a fracture surface is mounted with said fracture surface facing up;  
a reflection dome disposed over said table and having a downward concave reflection surface of a substantially semicircular section with an opening in the vicinity of a vertex thereof;  
a plurality of light sources which are mounted along an inner edge of said concave reflection surface of said reflection dome so as to emit light toward said reflection dome;  
an imaging means, disposed over said opening of said reflection dome, for sensing an image of the fracture surface irradiated with the light;  
a continuous tone color image processing means for processing the sensed image into a continuous tone color image; and  
binarizing means for binarizing the continuous tone color image through comparison between a result of the continuous tone color image processing and a threshold value. (Emphasis added.)

While Applicant's argument here is directed to the cited combination of references, it is necessary to first consider their individual teachings, in order to ascertain what combination (if any) could be made from them.

As indicated above, Claim 8 is amended to incorporate the features of cancelled Claims 9, 10, and 12, which are rejected under 35 U.S.C. §103(a) as being unpatentable over Nomoto in

view of U.S. Publication No. 2002/0050518 to Roustaei ("Roustaei"). As correctly recognized by the Examiner, Nomoto is silent on using a concave reflection surface, which reflects the light emitted by a light source, as in Claim 8. As a result, the Examiner cites Roustaei.

In contrast to Claim 8, Roustaei is generally directed to a technique for using a mirror 1350 to reflect a light beam from a laser diode 1320, to provide a reflected light beam that is incident on a target 200 (FIG. 13). (See pg. 13, paras. [0165] and [0166].) In contrast with Claim 8, Roustaei does not teach or suggest a reflection dome disposed over a table and having a downward concave reflection surface of a substantially semicircular section with an opening in the vicinity of a vertex thereof, as in Claim 8. Roustaei does disclose the use of a convex mirror as the mirror 1350 for reflecting the light beam from diode 1320 (see Supra), however, that is something completely different from a reflection dome, disposed over a table, and having a downward concave reflection surface of a substantially semicircular section with an opening in the vicinity of a vertex thereof, as in Claim 8.

Furthermore, in contrast with Claim 8, Roustaei does not disclose or suggest a plurality of light sources which are mounted along an inner edge of said concave reflection surface of said reflection dome so as to emit light toward said reflection dome, much less an imaging means, disposed over said opening of said reflection dome, for sensing an image of the fracture surface irradiated with the light, as in Claim 8.

Apposite to Claim 8, Roustaei teaches that the laser diode 1320 is disposed/spaced from the mirror 1350 to provide a structure that is distinctly different from a plurality of light sources that are mounted along the inner edge of the concave reflection, as in Claim 8. In addition, Roustaei discloses that mirror 1350 is of a different shape from the reflection dome of Claim 8. Hence, Roustaei cannot disclose a structure in which an imaging means takes an image of a fracture surface of a sample through an opening of a reflection dome, much less an imaging means, disposed over said opening of said reflection dome, for sensing an image of the fracture surface irradiated with the light, as in Claim 8.

Hence, no combination of Nomoto in view of Roustaei could disclose or suggest a reflection dome disposed over said table and having a downward concave reflection surface of a substantially semicircular section with an opening in the vicinity of a vertex thereof, or a

plurality of light sources which are mounted along an inner edge of said concave reflection surface of said reflection dome so as to emit light toward said reflection dome, much less an imaging means, disposed over said opening of said reflection dome, for sensing an image of the fracture surface irradiated with the light, as in Claim 8.

For each of the above reasons, therefore, Claim 8 and all claims which depend on Claim 8 are patentable over the cited art. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the §102(b) rejection of Claims 8 and 13-16.

#### Dependent Claims

In view of the above remarks, a specific discussion of the dependent claims is considered to be unnecessary. Therefore, Applicant's silence regarding any dependent claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.

However, regarding new Claims 17-19, the features recited in new Claims 17-19 are described in the specification (see page 7, lines 21-25). The features recited in new Claim 19 are also described in the specification (see page 6, lines 21-25).

### PETITION FOR EXTENSION OF TIME

Per 37 C.F.R. 1.136(a) and in connection with the Office Action mailed on November 14, 2007, Applicant respectfully petitions Commissioner for a two (2) month extension of time, extending the period for response to April 14, 2008. Please charge Deposit Account No. 02-2666 in the amount of \$460.00 to cover the petition filing fee for a 37 C.F.R. 1.17(a)(2) large entity.

### CONCLUSION

In view of the foregoing, it is believed that all claims now pending (1) are in proper form, (2) are neither obvious nor anticipated by the relied upon art of record, and (3) are in condition for allowance. A Notice of Allowance is earnestly solicited at the earliest possible date. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (310) 207-3800.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly, extension of time fees.

Respectfully submitted,

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Dated: 3/19/08

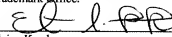
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### CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is being submitted electronically via EFS Web on the date shown below to the United States Patent and Trademark Office.

  
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3/19/08

Date